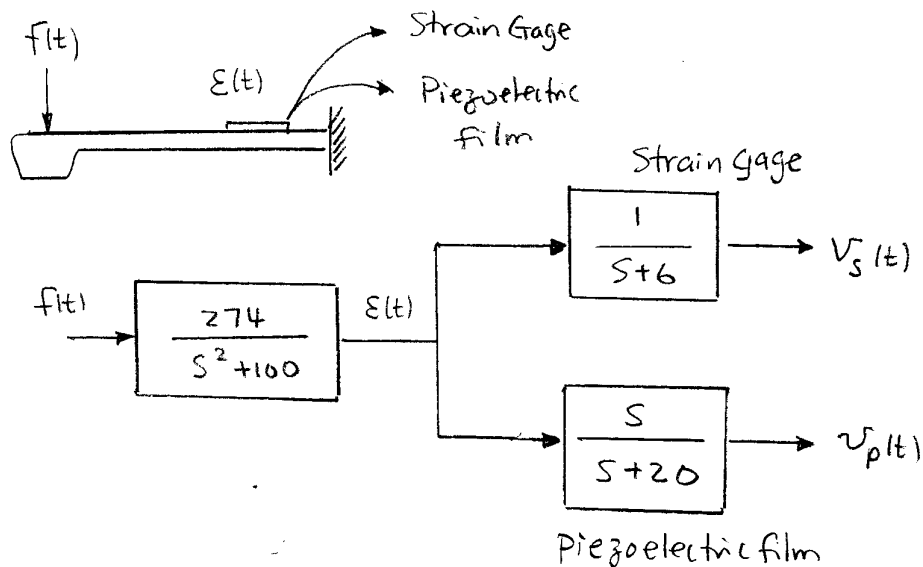


Spring 2008, Prob #3



(a) From $f(t)$ to $v_s(t)$

$$H_s(s) = \frac{274}{s^2 + 100} \cdot \frac{1}{s + 6}$$

From $f(t)$ to $v_p(t)$

$$H_p(s) = \frac{274}{s^2 + 100} \cdot \frac{s}{s + 20}$$

(b) For constant force $s = 0$. Choose Strain gage, because $s = 0$ is a zero of $H_p(s)$. You will get zero response if you choose piezoelectric film.